Amendments to the Drawings:

The attached sheet of drawings includes changes to Fig. 1. This sheet, which includes Fig. 1 replaces the original sheet including Fig. 1.

The attached sheet of drawings includes changes to Fig. 2. This sheet, which includes Fig. 2 replaces the original sheet including Fig. 2.

The attached sheet of drawings includes changes to Fig. 3. This sheet, which includes Fig. 3 replaces the original sheet including Fig. 3.

Attachment: Replacement Sheet

<div align="center">**REMARKS/ARGUMENTS**</div>

Claims 2 and 5 are pending in this Application.

Claims 2 and 5 have been canceled. New claims 13-23 have been added.
Applicants submit that support for the newly added claims can be found throughout the
specification, the original claims, and the drawings.

Claims 13-23 are now pending in the Application after entry of this Amendment.
No new matter has been entered.

In the Office Action, claim 2 stands rejected under 35 U.S.C. § 102(b) as being
anticipated by Non-patent literature entitled "A Timing-driven Data Path Layout Synthesis with
Integer Programming" by Kim et al. (hereinafter "Kim"). Claim 5 stands rejected under 35
U.S.C. § 103(a) as being unpatentable over Kim in view of Non-patent literature entitled "VLSI
Handbook" by Long (hereinafter "Long").

Claim Rejections Under 35 U.S.C. § 112, Second Paragraph

Applicants have canceled pending claims 2 and 5, therefore, Applicants
respectfully withdrawal of the rejections under 35 U.S.C. § 112, second paragraph. Applicants
have added new claim 13 directed to the subject matter of cancelled claim 2. Applicants have
added new claim 15 directed to the subject matter of cancelled claim 5.

Claim Rejections Under 35 U.S. C. § 102(b)

The Office Action alleges that Kim teaches or suggests all of the claim limitations
of claim 2. However, based on the arguments presented below, Applicants respectfully submit
that Kim fails to teach or suggest one or more of the claim limitations recited in claim 2, and by
extension Kim fails to anticipate new claim 13.

Claim 13

Claim 13 recites a computer-implemented method for physical synthesis of
integrated circuits, the method comprising:

receiving information indicative of an integrated circuit;

tracing signal flow in the integrated circuit to determine a set of critical signal paths;

placing and routing one or more circuit cells in a physical layout associated with the integrated circuit based on a priority associated with a critical signal path in the set of critical signal paths.

Applicants respectfully submit that Kim fails to teach or suggest each and every claim limitation recited in claim 13.

For example, Kim fails to teach or suggest the feature recited in claim 13 of "tracing signal flow in the integrated circuit to determine a set of critical signal paths." The Office Action alleges that Kim discloses tracing signal paths on page 716 in the section entitled "Data Path Synthesis." Applicants respectfully disagree.

In the section entitled "Data Path Synthesis," Kim simply discloses the assumption that data signals flow horizontally, while control signals flow vertically. However, Kim does not teach or suggest tracing signal flow as recited in new claim 13. Kim merely suggests to take advantage of this common characteristics (*e.g.*, the horizontal or vertical flows) for the purposes of placement, such that placement should be consistent for the direct interface between data path rows such that delay does not become amplified. (Kim: "Data Path Synthesis"). Placement using the common features as in Kim is substantially different from tracing signal flow as recited in new claim 13.

Kim further fails to teach or suggest tracing the "assumed" horizontal or vertical flows of Kim to determine a set of critical paths as recited in new claim 13. Kim merely divides control signals into categories based on function which is substantially different from determining criticality as recited in new claim 13.

Kim also fails to teach or suggest the feature recited in claim 13 of "placing and routing one or more circuit cells in a physical layout associated with the integrated circuit based on path priorities associated with paths in the set of critical signal paths." As discussed above, Kim suggests placement using the assumption of the horizontal and vertical flows. Kim fails to teach or suggest placing and routing based on path priorities as recited in new claim 13.

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Unless otherwise specified, amendments to the claims are made for the purposes of clarity, and are not intended to alter the scope of the claims or limit any equivalents thereof.

While Applicants do not necessarily agree with the prior art rejections set forth in the Office Action, these amendments are made to expedite issuance of the allowable subject matter. Applicants reserve the right to pursue claims to subject matter similar to those pending before the present Amendment in co-pending or subsequent applications.

Claim Rejections Under 35 U.S. C. § 103(a)

Applicants respectfully traverse the rejections to claim 5, and by extension to new claim 15. As discussed above, Kim fails to teach or suggest one or more claim limitations recited in claim 15. Therefore, the combination of Kim and Long also fails to teach or suggest each and every claim limitation recited in claim 15. Thus, Applicants respectfully submit that claim 15 is allowable.

Claims 14, and 16-22

Applicants respectfully submit that independent claims 13 and 15 are allowable for at least a similar rationale as discussed above for the allowability of claim 13, and others. Applicants respectfully submit that dependent claims 14 and 15-22 that depend directly and/or indirectly from the independent claims 13 and 15 respectively, are also allowable for at least a similar rationale as discussed above for the allowability of the independent claims. Applicants further respectfully submit that the dependent claims recite additional features that make the dependent claims allowable for additional reasons.

Claim 23

Applicants respectfully submit that independent claim 23 is allowable for at least a similar rationale as discussed above for the allowability of claim 13, and others. Applicants submit that the subject matter of claim 23 is supported by the specification, the original claims, and the drawings.

For example, claim 23 recites a computer readable medium configured to store a software program. The computer readable medium of claim 23 finds support in original claims 1

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and 4 which recite a software program (see claim 1) and a memory (see claim 4), and where the memory is able to store a bandwidth estimation module or a parasitic loading constraints generator (*e.g.*, a software program).

Applicants further respectfully submit that one of ordinary skill in the art can understand how software programs are comprised of program code, such as object code or instructions. For example, the specification references commercially available software programs such as SPICE or Specre that run on computer systems to perform numerical simulations. Applicants respectfully submit that one of ordinary skill in the art can understand that a software program are executed by a processor of a computer system to become operational with the processor to perform function within the program code.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 925-472-5000.

Respectfully submitted,

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Attachments
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